

What is claimed is:

1. A support system for a rotating shaft, comprising:

a fixed bracket;

a bracket assembly having a first damping member having a first fixed end and a second movable end, said first fixed end being securably attached to said fixed bracket and said second movable end being movable in a first plane aligned with the shaft, said bracket assembly having a brace securably attached to said second movable end of said first damping member, said bracket assembly further having a second damping member having a first end and a second end, said first end being securably attached to said brace and said second end being movable in a second plane that is aligned with the shaft and is generally perpendicular to said first plane; and

a roller bearing securably attached to said second end of said second damping member, said roller bearing being constructed and arranged to provide a mechanical interconnection between said second end of said damping member and the shaft.

2. A support system according to claim 1, wherein

said first damping member includes a first plate member and a first damping element positioned within said first plate member and said second damping member includes a second plate member and a second damping element positioned within said second plate member.

3. A support system according to claim 2, wherein

said first plate member, said second plate member, and said brace together form a one-piece, unitary bracket element.

4. A support system according to claim 3, wherein

each of said first and second damping element is elastomeric material, and said bracket element is metal.

5. A support system according to claim 2, wherein

said first plate member is a one-piece, unitary member and said second plate member is a one-piece, unitary member.

6. A support system according to claim 5, wherein

each of said first and second damping elements is elastomeric material, and each of said first and second plate members is metal.

7. A bracket assembly for supporting a rotating shaft, comprising:

a first damping member having a first end and a second end, said first end being configured to be securably attached to a fixed bracket and said second end being configured to be movable in a first plane aligned with the shaft;

a brace securably attached to said second end of said first damping member, said brace having an opening so that the shaft can pass through said brace; and

a second damping member having a first end and a second end, said first end being securably attached to said brace and said second end being configured to be movable in a second plane that is aligned with the shaft and that is generally perpendicular to said first plane,

said first damping member including a first plate member and a first damping element positioned within said first plate member and said second damping member including a second plate member and a second damping element positioned within said second plate member;

said first plate member, said second plate member, and said brace together forming a one-piece, unitary bracket element.

8. A bracket assembly according to claim 7, wherein

each of said first and second damping element is elastomeric material, and said one-piece, unitary bracket element is metal.

9. A bracket assembly according to claim 8, wherein

each of said first and second damping members are cantilevered from said brace and each of said first and second damping members is spaced from each other.

10. A bracket assembly according to claim 9, further comprising:

a third damping member cantilevered from said brace and a fourth damping member cantilevered from said brace, said third damping member having a third plate member and a third damping element positioned within said third plate member, said fourth damping member having a fourth plate member and a fourth damping element positioned within said fourth plate member, and each of said third

and fourth damping members being spaced from each other and from each of said first and second damping members.

11. A bracket assembly according to claim 10, wherein

said first plate member, said second plate member, said third plate member, said fourth plate member, and said brace together form said one-piece, unitary bracket element.

12. A support system for a rotating shaft, comprising:

a fixed bracket;

a bracket assembly having

a first damping member having a first end and a second end, said first end being securably attached to said fixed bracket and said second end being configured to be movable in a first plane aligned with the shaft,

a brace securably attached to said second end of said first damping member, and

a second damping member having a first end and a second end, said first end being securably attached to said brace and said second end being configured to be movable in a second plane that is aligned with the shaft and that is generally perpendicular to said first plane,

said first damping member including a first plate member and a first damping element positioned within said first plate member and said second damping member including a second plate member and a second damping element positioned within said second plate member,

said first plate member, said second plate member, and said brace together forming a one-piece, unitary bracket element; and

a bearing having a first bearing portion securably attached to said second end of said second damping member, and a second bearing portion structured and arranged to be securably attached to the shaft.

13. A support system according to claim 12, wherein

said bearing is a roller bearing constructed and arranged to provide a mechanical interconnection between said second end of said damper member and the shaft.

14. A support system according to claim 12, wherein

said bearing is a magnetic bearing having first and second magnetized members.

15. A damping member, comprising:

a first elastomeric member; and

a first plate member having a top, a bottom, a front, a rear, a first side, and a second side, each of said front and rear being configured to be securably fastened to other elements, said first plate member having a central opening extending completely through said first plate member between a first aperture in said first side and a second aperture in said second side, and said first plate member being formed as a one-piece, unitary member, and

said first elastomeric member being positioned within said central opening.

16. A damping member according to claim 15, wherein

said first plate member is metal.

17. A damping member according to claim 15, wherein

each of said top, said bottom, said front, said rear, said first side, and said second side are generally rectangular in shape.

18. A support system for a rotating shaft, comprising:

a fixed bracket;

a first damping member having a first end and a second end, said first end being securably attached to said fixed bracket and said second end being configured to be movable in a first plane aligned with the shaft,

a floating bracket securably attached to said second end of said first damping member, and

a second damping member having a first end and a second end, said first end being securably attached to said floating bracket and said second end being configured to be movable in a second plane that is aligned with the shaft and that is generally perpendicular to said first plane,

said first damping member including a first plate member and a first damping element positioned within said first plate member and said second damping member including a second plate member and a second damping element positioned within said second plate member,

each of said first plate member and said second plate member being formed as a one-piece, unitary plate member; and

a bearing having a first bearing portion securably attached to said second end of said second damping member, and a second bearing portion structured and arranged to be securably attached to the shaft.

19. A support system according to claim 18, wherein

said bearing is a roller bearing constructed and arranged to provide a mechanical interconnection between said second end of said damper member and the shaft.

20. A support system according to claim 18, wherein

said bearing is a magnetic bearing having first and second magnetized members.